CLAIMS

1. A rat highly sensitive to a carcinogen whose normal function in gap junction is inhibited.

2. The rat highly sensitive to a carcinogen according to claim 1, wherein the inhibition of the normal function in gap junction is an inhibition of channel function of connexon.

3. The rat highly sensitive to a carcinogen according to claim 2, wherein the inhibition of channel function of connexon is based on a deficiency of connexin function.

4. The rat highly sensitive to a carcinogen according to claim 3, wherein the deficiency of connexin function is based on a mutation of connexin 32.

5. A method for producing a rat highly sensitive to a carcinogen comprising the steps of: constructing a plasmid vector engineered to carry mutated rat connexin cDNA downstream of a promoter, and microinjecting the plasmid vector into a fertilized egg and then transplanting the fertilized egg into an oviduct.

6. The method for producing a rat highly sensitive to a carcinogen according to claim 5, wherein the promoter is an albumin promoter and the mutated rat connexin cDNA is a cDNA that encodes an amino acid sequence of rat connexin 32 wherein part of an amino acid is deleted.

7. A method for detecting a carcinogen wherein a test substance is administered to the rat highly sensitive to a carcinogen according to claim 1.

8. A method for screening an anticancer substance wherein a test substance is administered to a rat made to develop a cancer by using the rat highly sensitive to a carcinogen according to claim 1.

9. The method for screening an anticancer substance according to claim 8, wherein carcinogenesis of the rat highly sensitive to a carcinogen is caused by the administration of a carcinogen.